Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE MATERIAL SPECIFICATION

AMS 7735

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Revised

ALLOY WIRE, ROUND
35Pd - 30Ag - 14Cu - 10Au - 10Pt - 0.8Zn

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for electrical contacts or bearing surfaces requiring high hardness, low contact resistance, and good corrosion resistance.

3. COMPOSITION:

	min	max
Palladium	34.0	36.0
Silver	29.0	31.0
Copper	13.5	14.5
Gold	9.5	10.5
Platinum	9.5	10.5
Zinc	0.5	1.2
Other Elements, total	--	0.1

4. CONDITION: Solution heat treated.

5. TECHNICAL REQUIREMENTS:

5.1 Properties As Solution Heat Treated: The product shall conform to the following requirements:

5.1.1 Tensile Properties:

Nominal Diameter Inch	Tensile Strength psi	Elongation % in 2 in.
0.004 to 0.020, incl	110,000 - 135,000	20 - 40
Over 0.020 to 0.040, incl	100,000 - 125,000	15 - 35
Over 0.040 to 0.080, incl	95,000 - 120,000	15 - 35

5.1.2 Hardness:

Nominal Diameter Inch	Knoop Hardness, 100 g load (50 g under 0.005 in. dia)
0.004 to 0.010, incl	200 - 250
Over 0.010 to 0.080, incl	210 - 260

5.2 Properties After Precipitation Heat Treatment: The product shall be capable of meeting the following requirements after being precipitation heat treated by heating to 900 F ± 10 (482.2 C ± 5.6), holding at heat for 45 min., and cooling:

5.2.1 Tensile Properties:

Nominal Diameter Inch	Tensile Strength psi	Elongation % in 2 in.
0.004 to 0.020, incl	165,000 - 205,000	2 - 10
Over 0.020 to 0.040, incl	160,000 - 195,000	1 - 10
Over 0.040 to 0.080, incl	155,000 - 190,000	1 - 10

5.2.2 Hardness:

Nominal Diameter Inch	Knoop Hardness, 100 g load (50 g under 0.005 in. dia)
0.004 to 0.040, incl	350 - 410
Over 0.040 to 0.080, incl	340 - 400

6. QUALITY: Material shall be uniform in quality and condition, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.

7. TOLERANCES: Unless otherwise specified, tolerances shall conform to the following:

7.1 Diameter:

Nominal Diameter Inch	Tolerance, Inch Plus and Minus
0.004 to 0.010, incl	0.0001
Over 0.010 to 0.020, incl	0.0002
Over 0.020 to 0.030, incl	0.0003
Over 0.030 to 0.040, incl	0.0004
Over 0.040 to 0.080, incl	0.0005

7.1.1 Roundness: The product shall not be out-of-round by more than one-half the total tolerance specified in 7.1 for the nominal diameter.

7.2 Length (Cut lengths): ± 1/4 in. or ± 1%, whichever is greater.

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report of the results of tests for chemical composition, tensile properties, and hardness in the solution heat treated condition and a statement that the material will conform to specified properties after precipitation heat treatment. This report shall include the purchase order number, material specification number, size, and quantity.

8.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.